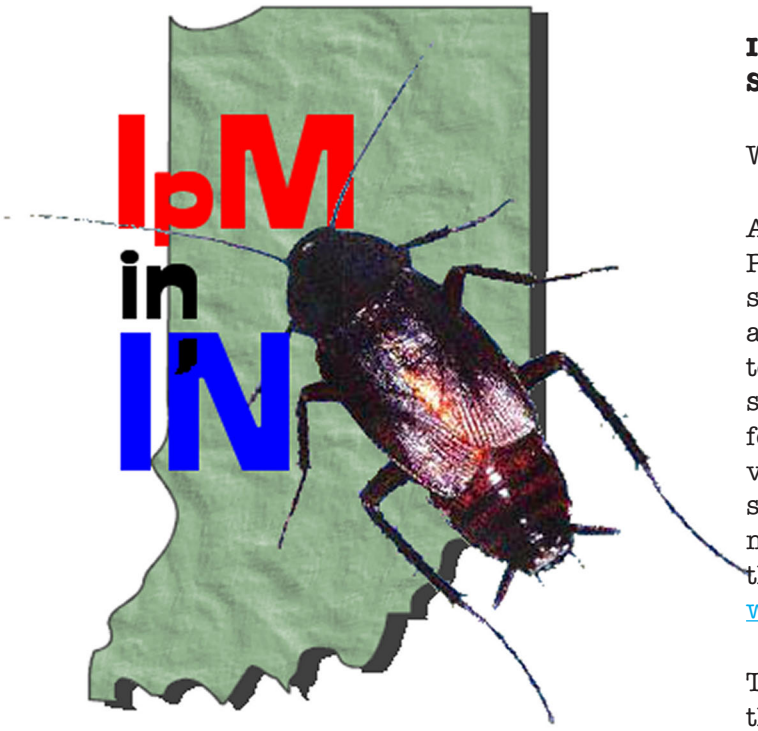
INDIANA DEPT. OF ENVIRONMENTAL MGMT.

the NotePad

Issue 5, Spring 2003

E-Newsletter for schools



Feature

Indiana, a Leader in Pesticide Management in Schools

Written by Tami Johnson, IDEM Staff

According to a new study released by Beyond Pesticides Today, 4,500 school districts in 28 states impose requirements that their schools adopt methods to reduce children's exposure to pesticides. However, the vast majority of school children go unprotected despite the federal government's encouragement of voluntary adoption of such measures. The study finds that voluntary, as opposed to mandatory, state programs have failed across-the-board. To view the whole article, go to www.beyondpesticides.org.

The state of Indiana serves as an exception to this finding, where 253 out of 289 school districts, or 88%, of public schools districts across Indiana have voluntarily adopted policies to reduce pests and manage pesticides. Indiana has been operating under a model policy that includes notification requirements and Integrated Pest Management (IPM) Practices which was adopted by the Indiana School Board Association (ISBA) on March 7, 2001. This policy was also endorsed by the Indiana Association of Public School Superintendents and the Association of Indiana School Business Officials. It was also supported by the Indiana Non-Public School Association.

To find out how your school district is doing, log on to the "Improving Kid's Environment" Website at http://www.ikecoalition.org/

PEST MANAGEMENT CHECKLIST

Use the following checklist for better pest management practices in your school:

- Adopt a pest management policy that includes IPM practices and notification requirements.
- Make sure you are using a licensed pest management professional if you are contracting out. Further, make sure the contractor is aware of the school's pest management policy.
- Appoint a designated person to monitor pests in between visits and keep pesticide records.
- Seal cracks and crevices both externally and internally to avoid pest infestation in the first place.
- Develop sanitation practices that include "pest clean methods verses human clean methods."
- Avoid preventative spraying techniques.
- Monitor for pests using pest sighting logs, sticky traps and baiting boxes to determine if there is a pest problem.
- Reduce cardboard and clutter.
- Use traps for rodents and gel baits for insects when possible.
- Use pesticides safely if they must be used and never use when children are present.
- Provide ongoing IPM training for school staff.
- Evaluate the pest management program regularly.

SO WHAT IS IPM, AND WHERE DOES THE PEST MANAGEMENT CHECKLIST FIT IN?

IPM is an ecological approach to pest management that uses non-chemical methods to reduce pests and pesticides. Although IPM is not currently mandated by state law in Indiana, guidelines for improved pest management practices were outlined in the Pest Management Checklist (above). This information outlines practices intended to protect the health of children, faculty and staff in public schools. These guidelines address adoption of a pest control policy, notification of staff and parents prior to pesticide applications, and qualifications of pesticide applicators, among other issues. This advisory policy and recommended practices are consistent with the principles of Integrated Pest Management. In fact, adoption of a pest control policy is one of the most basic components of any IPM program.

BUG OF THE MONTH

Red Wigglers

Written by Rachel O'Neil, IDEM Staff

Using worms for composting, or "vermicomposting," converts food scraps and other organic material into humus, an extremely nutrient-rich soil fertilizer. This is a fun and easy way to recycle organic wastes and benefit the environment! Worms have been breaking down organic materials and returning their nutrients to the soil for millions of years. By introducing this process to your students, you can teach valuable lessons in a variety of disciplines.

Only a few things are needed to make a good vermicomposting project: a bin, proper bedding, worms, and worm food. The bin should be only 8 - 16 inches deep, have a lid to keep out pests, and have holes in the bottom (1/4 inch or smaller) for ventilation and drainage. Because worms like moderate temperatures (between 55 and 75 degrees Fahrenheit), place the bin in a location where it will not freeze or overheat. Black and white newspaper makes great bedding for the worms; simply tear it into strips about one inch wide and moisten so it is barely damp. Fill the bin with moistened bedding, toss in a few handfuls of soil, and you are ready to add the worms and food.

The best kind of worms for composting are red worms, sometimes called red wigglers. (Common earthworms and night crawlers do not survive as well in bins, since they normally live under the soil surface.) Red wigglers eat more than their own weight in food every day, thrive in confinement, and reproduce quickly. One pound of red worms is enough to get you started on a compost bin. They can be purchased at some fishing supply stores, gardening centers, mail-order catalogs, and Internet sites.

Earthworm: *Lumbricus terrestris*
This species is not recommended for vermicomposting projects.

Worms like to eat many of the food remains that we usually throw away: stale bread, apple cores, lettuce trimmings, coffee grounds, and other non-greasy leftovers. Avoid citrus fruits, which are too acidic and can attract fruit flies. Here are some basic guidelines:

Do feed your worms:

- Vegetable scraps
- Fruit peelings
- Bread and grains
- Tea bags
- Coffee grounds and filters
- Well-crushed eggshells

Don't feed your worms:

- Meat
- Bones
- Dairy products
- Rubber bands
- Twigs and branches
- Greasy food

Begin feeding your worms only a little at a time. As they multiply, you can add larger quantities of food waste. Bury the food into the bedding regularly, rotating around the bin as you go. After you have been feeding your

worms for three to six months, you can begin harvesting the fertile compost. Harvesting the compost and adding fresh bedding at least twice a year is necessary to help keep your worms healthy. Move the contents of your bin to one side, place fresh bedding and food in the empty space, and after a couple of weeks, the worms will migrate to the new side, leaving behind the humus! This nutrient-rich material can now be sprinkled around the base of houseplants, added to soil for potting mixes or mixed into seeding trenches in your garden.

Many schools are beginning successful vermicomposting projects with their students. Some classrooms maintain bins as a part of an environmental or science unit; some schools start larger projects and involve the cafeteria. Teachers from all disciplines can find ways to integrate vermicomposting into lesson plans - including creative assignments in writing or arts, science projects, social studies, math lessons, and more!

For more information, contact IDEM's Office of Pollution Prevention and Technical Assistance at (800) 988-7901 or visit http://www.IN.gov/idem/

Using worms to decompose food waste offers several advantages:

- It can reduce garbage costs.
- It produces fewer odors and attracts fewer pests than putting food waste into a garbage container.
- It saves water and electricity that kitchen sinks and garbage disposals use.
- It produces free, high-quality fertilizer.
- It requires little space or maintenance.
- It produces free worms for fishing or other compost bins.

BURNING QUESTION

Is your playground teetering toward danger?

Compiled by Chris Gautier, IDEM Staff

The gray-green tint in the lumber used to build the teeter-totter in the schoolyard may pose a health threat, especially to young children. This green substance has been around since the 1940's when it was formulated as a wood-preservative to protect wood from the insects, fungi and other wood-rotting organisms. The product in question is called chromated copper arsenate, or CCA. It is composed of a blend of chromium, arsenic, and copper; the first two of which are hazardous to human health. CCA is driven into the wood fibers through the use of high pressure, hence this wood product is commonly referred to as "pressure-treated lumber."

CCA-treated lumber is currently used in play structures, decks, picnic tables, landscaping timbers, residential fencing, patios, and walkways/boardwalks. This practice will end very soon.

Beginning January 2004, The U.S. Environmental Protection Agency (EPA) will prohibit CCA products for any of these aforementioned residential uses. The chemical of highest concern, especially for children, is arsenic, a known carcinogen. This is an element that can enter the bloodstream and become a health hazard. A splinter of CCA treated wood, for example, can become embedded under the skin and release minute quantities of arsenic into the victim's bloodstream. Once in the bloodstream arsenic can interfere with important chemicals in the body and render them useless. Long-term exposures can eventually lead to cancer. Lower concentrations can have a negative impact much more rapidly in small children than in adults. Other routes of entry can include children chewing on the CCA wood, normal hand to mouth behavior, and under certain circumstances, breathing in CCA if it is being burned or power-sanded nearby. Natural weathering of the treated lumber, especially if it remains unsealed, can lead to flaking of CCA, which can then contaminate children's play areas.

Left to right: CCA Treated wood with no stain, Rubeanic Acid stain, PAN stain, Chrome Azurol S stain.

Common sense dictates that we minimize our exposure to CCA products by incorporating the following safe work and safe play practices, until safety standards are established by EPA:

- Seal the CCA lumber by painting, varnishing or staining the treated wood once a year. For more details on sealing treated lumber, refer to IDEM's fact sheet at http://www.in.gov/idem/planning/cca/ccafactsheet.html
- As always, when children play outside, whether around CCA-treated play structures or not, they should wash their hands prior to eating.
- Food should not be placed on any outside surface, including treated wood.
- CCA wood should never be burned, as toxic chemicals may be released as part of the smoke and ashes.
- Maintenance staff who work directly with pressure-treated lumber should wear gloves, goggles and a dust mask when sawing, machining or sanding CCA wood.
- Clean up all sawdust and scraps thoroughly, and dispose of them properly in the trash.
- Those working with the wood should wash all exposed areas of their bodies thoroughly with soap and water before eating, drinking or using tobacco products.
- Work clothes should be washed separately from other household clothing before wearing them again.
- Seek alternatives to treated lumber such as plastic lumber made of recycled milk jugs.

If you would like to speak or write to a person regarding the issue of treated lumber, you may contact the following people:

Paula Smith, Director - Office of Planning and Assessment, Indiana Department of Environmental Mgmt.
100 N. Senate Ave. IGCN #1301
Indianapolis, IN 46204
(317) 233-1210 or (800) 451-6027
extension 3-1210

OR:

Howard W. Cundiff, P.E., Director - Indiana State Dept. of Health, Consumer Protection
2 N. Meridian Street, Section 3-D
Indianapolis, IN 46204
(317) 233-7360 or (800) 272-9723

RECYCLING BIN

Earth Day

Earth Day is right around the corner! Here are 10 ways to celebrate the annual event in your school.

1) Honor someone or a group of people within your school or community who has made a difference in protecting our environment by featuring their accomplishments in the school or local newspaper, or by hosting a "Celebration of Achievement" at a school assembly. The school assembly could feature an "EnviroOlympics" complete with a can crushing contest and a recycling obstacle course.
2) Get creative in art, consumer and family science, and industrial arts classes by using would-be waste to create garbage sculptures that emphasize reuse. The masterpieces can be displayed at school events like parent-teacher conferences, your school's Earth Day celebration, or at the local library or nursing home.
3) Put your English skills to work and write short skits about things kids can do to protect our environment. Older students can perform them for younger students or elementary classes could perform them for one another.
4) Plant a tree on Earth Day and dedicate it to the school. The tree will represent the interconnection between our environment and humans with roots searching for water, branches reaching for air, and a trunk planted firmly in the ground. Use the tree as a symbol to remember your commitments to protect our environment.
5) Hold a school-wide cleanup. Work with your local Solid Waste Management District to find out what can be recycled and how other bulky items and hazardous wastes should be properly disposed of.
6) Contact a local organization such as your Soil and Water Conservation District or Solid Waste Management District and ask for a presentation to help your school celebrate Earth Day.
7) Adopt a local river, wetland, stream, or pond and help keep it free of litter and pollution. Use the same idea to help keep areas in your school clean on a year-round basis.
8) Organize a campaign to encourage local grocery stores to offer recycled and recycled-content products, organic produce, reusable shopping bags, and nontoxic cleaners, etc. Or host an EcoFair with booths showcasing recycled-content products and environmentally- sound goods that the school purchases.
9) Create a school newsletter that focuses on protecting our environment. If the 5th grade is in charge of the newsletter, for example, different classes could be responsible for different articles or columns. If your school already has a newsletter, make the April or spring edition all about environmental issues.
10) Start a composting program at your school to turn grass clippings, leaves, and food scraps into nutrient-rich soil that could be sold as a fundraiser or used on the school grounds.

Remember, make April 22, and everyday Earthday!

DEAR LORI

Letters to the IDEM Commissioner

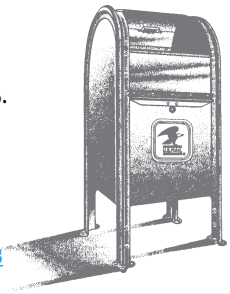
Lori F. Kaplan is the commissioner of the Indiana Department of Environmental Management. Do you have a question you would like to ask Lori? Submit your questions electronically to earthweek@dem.state.in.us and your question (with Lori's response) may appear in the next edition of the Notepad.

Dear Lori: As I become more aware of various environmental factors that can affect the quality of my students' health, I have been trying to find ways to ensure our actual school grounds are not also contributing to any health problems. In observing the idling school buses this morning, I wondered: is the idling exhaust harmful to our students?

Drop Lori a Note!

Send all correspondance to:

Indiana Dept. of Environmental Mgmt.
Attn: Lori Kaplan
100 N Senate Ave.
P.O. Box 6015
Indianapolis, IN 46206-6015
Or E-mail: earthweek@dem.state.in.us



Lori: Yes. Numerous scientific and health studies have indicated that exposure to diesel exhaust can pose serious health risks. Children are especially sensitive to air pollution because they breathe 50 percent more air per pound of body weight than adults. New federal standards will make buses run cleaner in the future, but there are options available to reduce children's exposure to diesel exhaust today.

Diesel exhaust from idling buses can accumulate on and around the bus. Cutting school bus idling time is good for the air and good for the health of children and drivers. It also saves school budget dollars - every hour of idling wastes one gallon of fuel. The following are tips to reduce idling time and emissions:

- ♦ Turn off bus engines when buses arrive at their destinations, particularly on school grounds.
- ♦ Do not restart buses until departure.
- ♦ At school bus depots, try to limit the idling time during early morning warm-up to what is recommended by the manufacturer - generally three to five minutes.
- ♦ In colder months, block heaters, which plug into electrical outlets or Webasto heaters installed in the bus can help warm the engine to avoid starting difficulties and shorten warm-up time.
- ♦ If buses need the engine to run flashing lights, consider changing the circuit configurations so that the lights can be powered by the battery without the engine running.
- ♦ In winter, provide an indoor space where drivers who arrive early can wait and keep warm.
- ♦ Require routine maintenance to keep buses running smoothly with no leakage of fumes into seating areas.
- ♦ Examine the length of rides and take appropriate steps to minimize length of routes where possible.
- ♦ Reevaluate location of bus parking lots, avoiding close proximity to areas where fumes can be trapped or enter buildings.
- ♦ Purchase buses with low emission engines and use ultra-low sulfur diesel fuel.

There are additional options for reducing emissions. Emission Control Retrofit Technology includes implementation of ultra-low sulfur diesel fuel, particulate matter filters, and oxidation catalysts. For more information on this technology, visit www.epa.gov/otaq/retrofit/retroverifiedlist.htm. Alternative fuels such as biodiesel, compressed natural gas, or propane can be utilized in many situations. For more information on these fuels, visit www.afdc.doe.gov.

Thank you for your concern about your students' health and your keen observation of the schoolyard. For more information on this topic, please contact Paula Smith at IDEM at 1-800-451-6027 or via e-mail at psmith@dem.state.in.us.

MONEY MATTERS

More Grants Available to Schools

Compiled by Karen Terrell, IDEM Staff

IDEM wants to ensure that teachers and schools have access to the tools they need to further their environmental education efforts. We are happy to provide the following information on federal grants, awards, and fellowships that are available to schools and Web sites that you can visit for additional information.

THE DEKKO FOUNDATION

PURPOSE: The Foundation focuses its grantmaking on programs that prepare students for life and work; purchase of technology hardware (up to 40% of total cost) for schools with long-range plans and a commitment to staff development; programs that: create an awareness of a child's natural curiosity; efforts that prepare teachers to model positive character traits and attitudes; curriculum that is cooperative, interdisciplinary, and integrated with technology; programs that create an awareness of career preparation and student achievement after high school; support grassroots efforts of school corporation employees who are trying to make a difference in their classroom, building or school system; programs that prevent youth from becoming involved in at-risk behaviors; or support for projects that encourage partnerships between schools and businesses. The Foundation also supports a variety of early childhood education programs.

Write a brief letter of intent (no more than two pages) to the Foundation describing your project, your organization, and expected outcomes. Include a budget and a timeframe for completing the project. The letter of intent should be mailed, emailed, or faxed to Susan Franks, The Dekko Foundation, P.O. Box 548, Kendallville, IN 46755; (e-mail) dekko@dekkofoundation.org; (fax) 219-347-7103.

ELIGIBILITY: The Dekko Foundation will consider grant proposals from public and private schools from the following geographic areas in Indiana: DeKalb, Kosciusko, LaGrange, Noble, Steuben and Whitley Counties.

DEADLINE: None given

RANDALL L. TOBIAS FOUNDATION

PURPOSE: The Randall L. Tobias Foundation is particularly interested in programs that address the quality of K-12 education. The Foundation gives special consideration to programs that encourage personal development; enhance the availability and quality of arts and culture; promote enriched educational instruction; inspire positive educational change; produce the greatest possible impact; and effectively measure outcomes. The Foundation generally does not contribute to endowment campaigns, fundraising events, federal, state or local governmental bodies, political candidates, individuals or other private foundations. Apply online at http://www.rltfound.org/main.html.

ELIGIBILITY: Funding is offered in geographic areas where the Tobias family has particular interests, primarily the Indianapolis, Indiana area.

DEADLINE: None given

ISCIENCEPROJECT.COM

PURPOSE: Teachers, whose ideas are selected by iScienceProject.com, will be loaned a classroom set of HOBO data logger equipment for up to two months to run their experiments. A HOBO data logger is a matchbox sized, battery-operated device that can measure air temperature (Fahrenheit and Celsius), water temperature, matter (solid, liquid, and gas) temperature, relative humidity, dew point, light, vibration, contact closure (open/closed), motor (on/off), AC sensors, and more. Once teachers return the sets and their experiment results, teachers are eligible to win HOBO gift certificates ranging from $40 to $300. For more information, please visit their web site at

http://iscienceproject.com/contest/5598_aboutcontests.htm

ELIGIBILITY: None specified

DEADLINE: May 1, 2003

THE NATIONAL SCIENCE FOUNDATION

PURPOSE: The Presidential Awards for Excellence in Mathematics and Science Teaching identifies outstanding mathematics and science teachers, kindergarten through 12th grade, in each state and the four U.S. jurisdictions. Beginning in 2003, the competition will alternate each year between teachers of grades 7-12 and teachers of grades K-6. In 2003, teachers of grades 7-12 mathematics and science in each state and the four U.S. jurisdictions will be eligible to apply. Teachers of grades K-6 will be eligible for Presidential Awards in 2004. Each Presidential Awardee will receive a $10,000 award from the National Science Foundation and gifts from donors. Each Awardee will also be invited to attend, along with a guest, recognition events in Washington, D.C., in March 2004, which will include: an award ceremony; a Presidential Citation; meetings with leaders in government and education; sessions to share ideas and teaching experiences; and receptions and banquets to honor recipients.
http://www.ehr.nsf.gov/pres_awards/proinfo1.shtm

ELIGIBILITY: Teachers of grades 7-12 in mathematics and science

DEADLINE: May 1, 2003

EARTHWATCH EDUCATION INSTITUTE

PURPOSE: Join conservation research this summer! EARTHWATCH INSTITUTE offers fellowships for K-12 educators to join our two-week field expeditions. Projects range from archeological digs in Peru, to habitat studies in Oregon, to running transects through reefs in the Bahamas. EARTHWATCH INSTITUTE aims to promote multidisciplinary science and social studies curriculum in schools nationwide as well as enrich teachers and enhance the academic experience of students. EARTHWATCH INSTITUTE, an international nonprofit organization founded in 1972, supports the work of renowned scientists in the fields of archaeology, cultural diversity, endangered ecosystems, and biodiversity, among others. While in the field, Fellows work side-by-side researchers on one of over 60 ongoing research projects worldwide. In most cases, no special skills are necessary. We are looking for adventuresome, curious, and innovative people who are committed to life-long learning.

Visit our Web site and download an application from www.earthwatch.org/ed/fellowships.html.

ELIGIBILITY: Teacher of grades K-12

DEADLINE: None indicated

INTERGRAPH MAPPING & GIS SOLUTIONS

PURPOSE: Intergraph Mapping and GIS Solutions will award GeoMedia Education Grants valued at more than $6 million dollars. The grants will recognize innovative teaching that advances the use of geographic information sciences by educators and students in the classroom. The grants will be awarded on two levels, including 1) community colleges, technical schools, and universities, and 2) K-12 and primary and secondary schools. By taking advantage of these grants, students and teachers can use GeoMedia's leading-edge technology to explore new possibilities and impact the future of geographic information systems (GIS). They can learn GIS principles and methodology, spatial analysis techniques, GIS data construction, and a variety of other application capabilities. The products that will be part of the grant program are GeoMedia Professional, GeoMedia WebMap Professional, and IntelliWhere(TM) OnDemand and IntelliWhere LocationServer with Intergraph's powerful location-based services technology.
http://www.intergraph.com/gis/education/edgrants.asp

ELIGIBILITY: K-12 teachers

DEADLINE: None specified

HEALTH CORNER

EPA Launches Healthy School Environments Web Portal

Compiled and Written by Tami Johnson, IDEM Staff

In Indiana alone, there are 2,841 public and non-public schools encompassing grades Pre-K through 12, including vocational and special education schools. Hundreds of Hoosier children and adults spend a significant portion of their days in school buildings, many of which are old and inadequately maintained, and which often contain environmental conditions that inhibit learning and pose increased risks to the health of children and staff.

Wonder how well your school fares?

Whether you are a facility manager, school administrator, school nurse, or a teacher, you can use the Environmental Web Portal to address environmental health issues such as indoor air quality, pest management, environmental education and drinking water. While the information is primarily intended to help improve the environment of school facilities, educational resources for students and teachers can also be found through the Healthy School Environments portal. EPA, other Federal agencies, States, local governments and non-governmental organizations have developed the resources identified. Visitors can browse resources by topic, or by geographic area, or search all resources by entering specific keywords into the search box at the top of each page.

Visit http://epa.gov/schools

"Source: 2003 National Health Observances, National Health Information Center, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, Washington, DC."

2003 HEALTHY SCHOOL CALENDAR

If your school is looking for when and how to celebrate various health events throughout the year, go to the 2003 National Health Informational Center's Web site. Teachers, parents, and school nurses can use some of the promotional information to encourage a healthier environment in schools.

http://www.healthfinder.gov/library/nho/nho.asp.

MAKE SCHOOL A HEALTHIER PLACE TO BE

TOP 10 LIST OF THINGS A SCHOOL CAN DO FOR AN ENVIRONMENTALLY HEALTHIER LEARNING ENVIRONMENT

10) Test the drinking water for lead and other hazardous substances.
9) Fix leaking pipes and roofs immediately.
8) Reduce cardboard and clutter.
7) Control pollution sources in science laboratories, art supplies and vocational activities.
6) Use integrated pest management practices such as sealing cracks and crevices to minimize the use of pesticides.
5) Ventilate each classroom adequately.
4) Control temperature and humidity.
3) Clean up spills immediately.
2) Change furnace filters when needed.
1) Keep air-intakes free of contaminants such as bus idling.

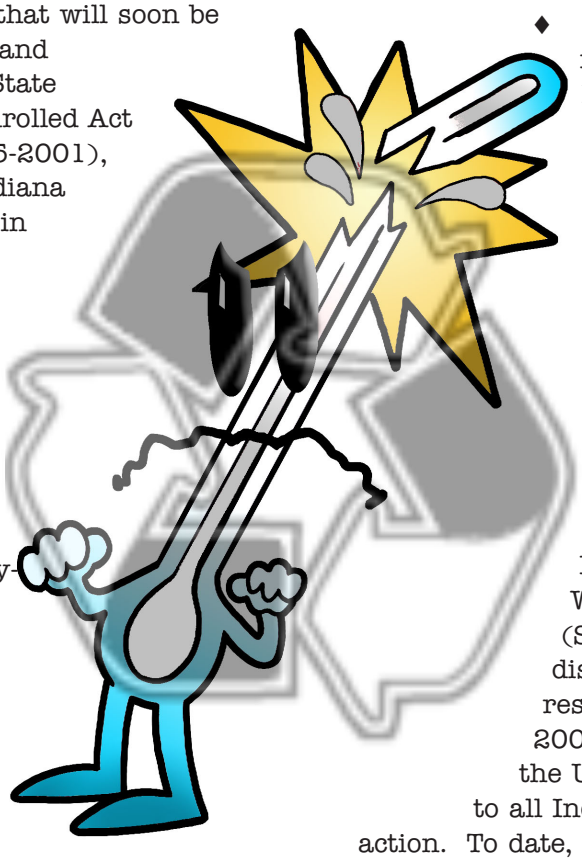
Remember that keeping a school healthy is a responsibility we all share whether you are a student, teacher, maintenance personnel, kitchen staff, parent, or administrator!

DISPOSAL DILEMMA

House Enrolled Act 1901 - A New 'Mercury in Schools' Law

Written by Chad Trinkle, IDEM Staff

Schools and school science labs often house mercury and mercury-containing products. The Indiana Department of Environmental Management (IDEM) and the Indiana Department of Education have written letters to all Indiana schools of a law that will soon be in effect related to mercury and schools. The 2001 Indiana State Legislature passed House Enrolled Act (HEA) 1901 (Public Law 225-2001), adding new provisions to Indiana state law that restricts and, in some cases, bans the use, distribution, and disposal of mercury and mercury-containing products. According to the law, after July 1, 2003, "public and nonpublic schools may not purchase or use mercury commodities, mercury compounds or other mercury-added instructional aids in primary and secondary classrooms." The only exceptions to this ban are measuring devices and thermometers for which no adequate substitute exists for use in laboratories. Mercury-containing items such as thermostats and fluorescent lamps are still permitted inside buildings. Recycling and disposal of mercury-containing items will be necessary. Proper recycling or disposal is imperative. Mercury's threat to the environment and to our children cannot be overstated.



Consider these facts about mercury:

- Children are more vulnerable to mercury poisoning because they have not yet developed the natural barrier that protects the brain and central nervous system from neurotoxins such as mercury.
- In extreme cases, mercury poisoning can cause severe mental impairments in people of all ages.
- Breathing mercury vapors can be dangerous, especially over long periods of time.
- One drop (3.0 grams) of mercury can poison an entire lake or stream.
- Approximately 0.5 grams of mercury are found in household fever thermometers while 3.0 grams are in a typical thermostat.

A letter was mailed to your school in January 1999 by the Indiana Household Hazardous Waste Task Force urging your school to become mercury-free and have any mercury-containing items properly recycled. At that time, several schools around Indiana began working with IDEM and their local Solid Waste Management District (SWMD) to properly recycle or dispose of the mercury from their respective schools. In November 2001, another letter was sent by the U.S. EPA Region 5 Administrator to all Indiana schools urging the same action. To date, only 218 of Indiana's 2,841 schools have officially become "mercury-free."

To help your school comply with HEA 1901, you are again encouraged to work with your local SWMD to properly dispose of mercury and mercury-containing items found in your school. The Indiana SWMDs have the capability to receive, store, and properly recycle or dispose of mercury. In most cases, you will be responsible to get the mercury items to your SWMD and officials there will take over. To be eligible to receive this service from your SWMD,

all you must do is sign the form, "Mercury Reduction and Recycling for Schools Pledge Program" and fax it to IDEM at 317-233-6647. IDEM will pay for 75% of the costs associated with the packing, transportation, and recycling of the mercury via the Mercury Awareness Program and our recycling grant dollars. The remaining 25% may be the responsibility of your school. Click here to see a list of all Indiana SWMDs. Please contact your respective SWMD to discuss any minimal fees for this program. If your school is located within Marion County, please contact the City of Indianapolis at 317-327-2423 or via e-mail at ERMD@indygov.org.

This partnership with the SWMDs and the City of Indianapolis does not provide for the recycling of fluorescent lamps. Fluorescent lamps are an excellent, efficient means of lighting, yet they contain mercury and are hazardous if broken. Recycling is the best management practice for these lamps. A list of private lamp recycling outlets can be viewed on the Internet at: http://www.in.gov/idem/ctap/mercury/recyclers.pdf for your convenience. Fluorescent lamp recycling may also be available through your SWMD.

A Fact Sheet specific to Indiana schools and HEA 1901 is also available to serve as a quick reference as you are working to rid your school of mercury. Additional information regarding the requirements of HEA 1901 can be found on IDEM's Web site at http://www.in.gov/idem/mercury. IDEM will also provide technical assistance to help answer any questions that may come up during this process. For technical assistance on mercury products and proper disposal methods, call IDEM's Office of Pollution Prevention and Technical Assistance at 800-988-7901.

We look forward to working with your school corporation to make Indiana a cleaner, healthier place to live and continue the safety of Indiana's educational facilities for our children. Please don't hesitate to call us with any questions you may have about HEA 1901. For questions about HEA 1901, call IDEM's Office of Planning and Assessment at 800-451-6027, extension 233-0701.

SUPER SCHOOL

Marshall Environmental Sciences Academy (MESA)

Written by Marty Weyand, MESA Staff

The Marshall Environmental Sciences Academy (MESA) is an urban middle school located on the far east side of Indianapolis. Serving students in kindergarten and grades 6-8, the MESA is an all school Indianapolis Public Schools (IPS) magnet/option program focusing on environmental themes. The unique MESA curriculum aligns environmental themes with the standards based IPS district curriculum framework. The MESA curriculum has a different environmental theme each grading period - environmental appreciation and awareness, air and space issues (IDEM LEAP materials are excellent resources for the air theme), land issues, and water issues. A spiral approach is used to allow students to study each theme from a personal (grade six), community (grade seven), and global (grade eight) perspective allowing students to build on an existing knowledge base. A team approach to scheduling allows for thematic, interdisciplinary instruction. Examples of thematic units are The Great Barrier Reef, Wolves, Elephants (this unit coincided with the gestation of an elephant at the Indianapolis Zoo), Tornado (coinciding with the tornado which struck our school 9/20/02), Household Solid Wastes, Our Air (using IDEM LEAP materials), and Butterfly Migration.

Several initiatives have been implemented to support the environmental curriculum at the MESA. Inquiry-based instruction teaches students to solve problems and think critically. The MESA Science department utilizes inquiry-based kits for many activities, and there are inquiry-based math and reading classes as well. Inquiry-based resources are housed in our unique Environmental Inquiry Center (EIC). The EIC also serves as the professional development hub for the building and has been used to facilitate a variety of district and statewide professional development events. Our most visible initiative is the "Teaching Off the Wall" environmental mural project. The mural has allowed students to conduct environmental research and explore issues of diversity, presenting their findings as part of the mural. Over 1,000 MESA students have painted on the environmental mural that is over 592-feet-long and eight-feet-tall, authentic, and to-scale. Currently, the "Teaching Off the Wall" mural takes viewers on an odyssey across Brown County, Australia and The Great Barrier Reef, the African savanna, Central America, and into the depths of the Pacific Ocean. If you have not had the opportunity to see (or paint on) our mural project, call 693-5484 to set up an appointment to do so. There are four outdoor classroom areas at the MESA. These include a forest habitat area, a butterfly garden, a prairie area, and a wetland habitat (a wetland mitigation site approved by IDEM). Activities are conducted year round in our outdoor classrooms, which includes a GLOBE (Global Learning and Observations to Benefit the Environment) weather station. Experiential learning activities such as attending residence camp and presenting at environmental conferences are other activities MESA students participate in. Technology has become an important initiative at the MESA, with students using GPS receivers, digital cameras, wireless laptop computers, digital sensors, a digital weather station, CAD/CAM, and distance learning technology regularly. The MESA also has a television production studio on site.

However, regardless of curriculum or supporting initiatives, the MESA is most proud of our many partners that help maintain the school's environmental focus. Our partners include: IDEM (Curriculum materials, expert speakers, and professional development), Ball State University (technical support for outdoor classroom maintain, Project GLOBE training), DNR (Project Wet, Wild, and PLT training), Damaans Nursery, Mainscape Nursery, Rock-Tenn Inc. (paper recycling program), YMCA (camp and after school programming), Marion County Health Department, Marion County Soil and Water Conservation District, and a variety of other local businesses. One of our most recent partners is the Central Indiana Land Trust. Current plans are for MESA students to create a nature trail in a nearby Trust property. If you or your organizations have an interest in the MESA or any part of the MESA program, we would love to hear from you. Contact Mr. Marty Weyand at 317-693-5484.

ABOUT THE NOTEPAD

The Notepad is an IDEM quarterly electronic publication designed to inform Indiana educators and school administrators about possible environmental health threats in their buildings and to keep them abreast of environmental education resources.

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